

THE APPLICATION OF THERAPEUTIC EXERCISES
IN LATERAL CURVATURE

HENRY O. ^LFEISS, M. D.
Cleveland, Ohio

Reprint from the OHIO STATE MEDICAL JOURNAL, January, 1907

The Berlin Printing Co., Columbus, Ohio.

FELSS



22501242107

THE APPLICATION OF THERAPEUTIC EXERCISES IN LATERAL CURVATURE

HENRY O. FEISS, M. D.
Cleveland, Ohio

Reprint from the OHIO STATE MEDICAL JOURNAL, January, 1907

The Berlin Printing Co., Columbus, Ohio.



303950

Aprax 66.

WELLCOME INSTITUTE LIBRARY	
Coll.	weIMOmec
Coll.	pam
No.	WB 460
	1907
	F319

THE APPLICATION OF THERAPEUTIC EXERCISES IN LATERAL CURVATURE.

HENRY O. FEISS, M. D.,
Cleveland, Ohio.

The treatment of lateral curvature includes the use of braces and the application of therapeutic exercises. In the present report we will confine ourselves simply to the exposition of the latter form of treatment, illustrating how certain principles are ap-

plied. Brace treatment is very important but will be considered elsewhere.

We may regard the use of therapeutic exercises for lateral curvature from two

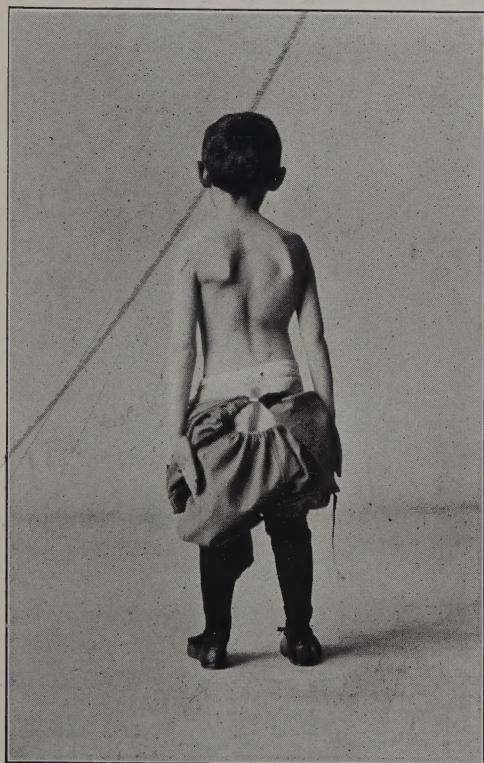


FIG. 1

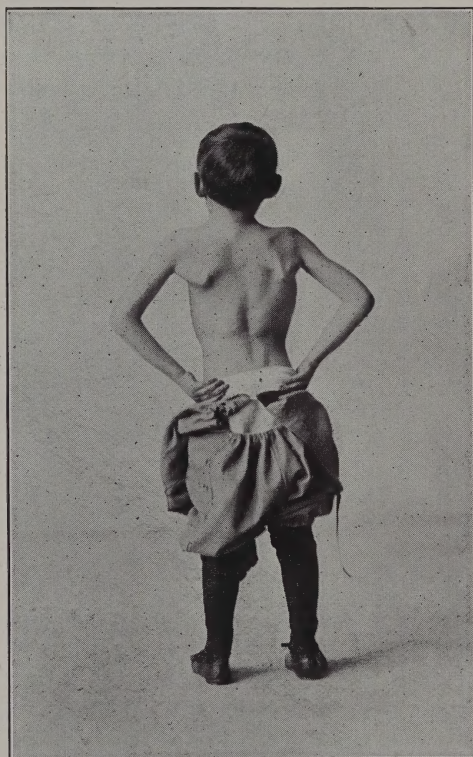


FIG. 2

points of view, either by regarding the patient in his present state as a deformed individual and attempting to render him as straight as possible without specific reference to the path along which the deformity took place; or by regarding the purely mechanical aspect of the condition, which point implies a knowledge of the path along which the deformity traveled.

In the course of the last few years we have occupied ourselves to a certain extent in investigating this path and studying the mechanical changes as they developed, but the work has not yet been sufficiently advanced to enable us to formulate anything especially new in our method of treatment. So far as we are able to judge, however, in the present state of our knowledge, any changes in treatment in the future will probably be in the nature of evolvments from past methods rather than radical innovations, and any new principles of treatment founded on specific mechanical changes must always take into consideration the older principles of the general func-

cises and referred to its threefold object; first, to cultivate the active forces in the muscles by mental stimulation and local practice; second, to bring into play a certain power of mobility in such joints as

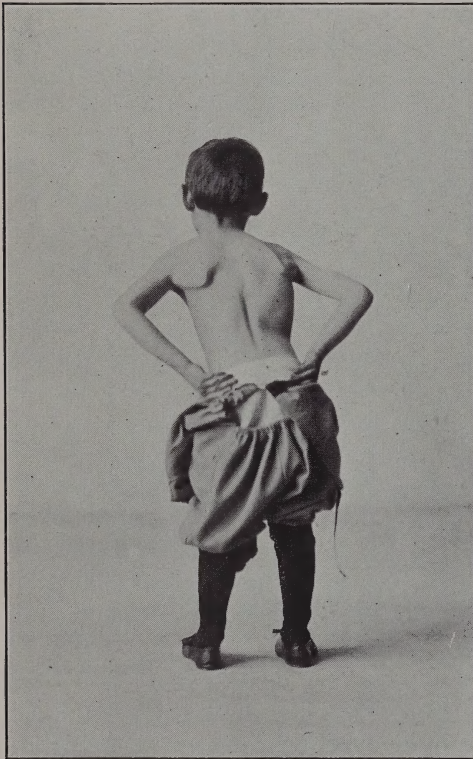


FIG. 3

tion of therapeutic exercises as implied in the first point of view.

In a previous report (Cleveland Medical Journal, February, 1906), we considered this general function of therapeutic exer-



FIG. 4

have been comparatively fixed by the pathological process, and third, to stretch all factors which on account of their shortness would interfere with such mobility as we are able to gain.

The only specific point which we care to discuss in the present report is the importance of understanding that almost the initial deforming process takes place in the ribs, for they are the vicious levers which in prolonged asymmetrical postures cause the bodies of the vertebræ to twist, and once this change in the vertebræ takes place, then the whole spinal column assumes new relationships and new curves which soon

after are followed by actual change of shape in the vertebræ. Therefore, we ought to devote our energies to preventing further changes in the ribs and in attempting to obliterate such changes as have taken place. That is, we ought to try not so much to straighten out the curve in the column, but rather to counteract those forces which cause the curve. We can almost always recognize the principle of the process by studying the thorax, for (leaving out of consideration for the present the question of concave torsion), we find on one side a contracted thorax and on the other a flattened thorax. The contracted thorax immediately suggests from where

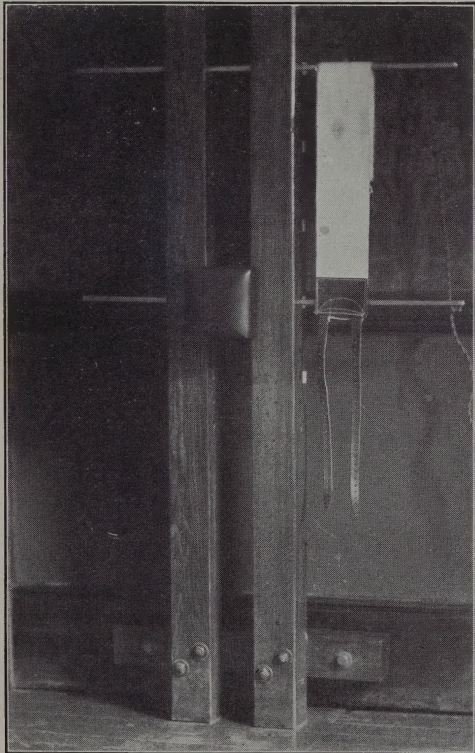


FIG. 5

the vicious force comes and the direction in which the bodies of the vertebræ are pointing.

But in the present paper we will not go very far into this subject, limiting our-

selves rather as much as possible to the more general point of view as summarized in the threefold function. To give a more practical account we will describe some of the exercises which we now use.

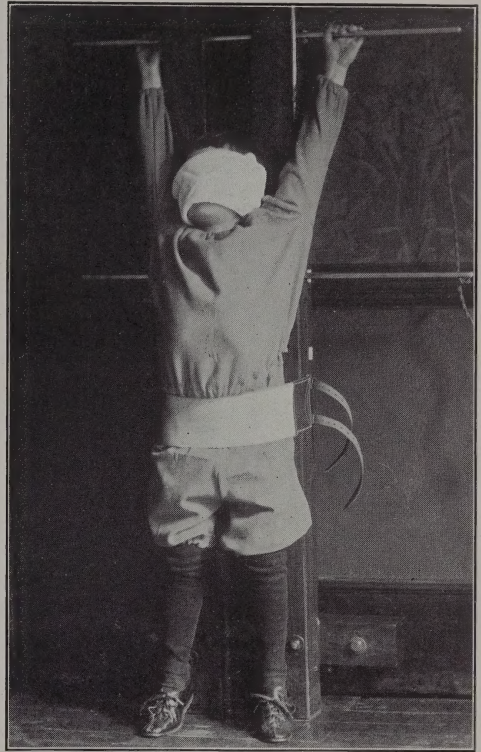


FIG. 6

In cultivating the active forces in the muscles the essential thing is to teach the child what we consider the best possible position, namely, that position which most nearly approaches that of symmetrical balance. This position (Fig. 1) is one in which the patient equalizes his hips as nearly as possible without bending the knee and in which the shoulders are kept even, the head thrown back, and the chin held close to the chest, the position being modified somewhat according to the conditions in the individual case. The child must learn to breathe naturally in this attitude, and is told to practice it before a looking-glass. The parents or other members of the family

are asked to watch the child and by means of frequent but gentle reminders to aid the child in its new carriage.

Starting with this so-called "poise" we can give a series of movements directed to cultivate a subconscious state wherewith the patient will involuntarily hold himself in the best possible attitude while he is making other movements of varifold character.

An important movement to teach (Hoffa) is one in which the patient places his two hands on his hips and stretches himself by means of the trunk muscles into a forced position. (Fig. 2.) Such a position tends to symmetrize the body but is difficult at

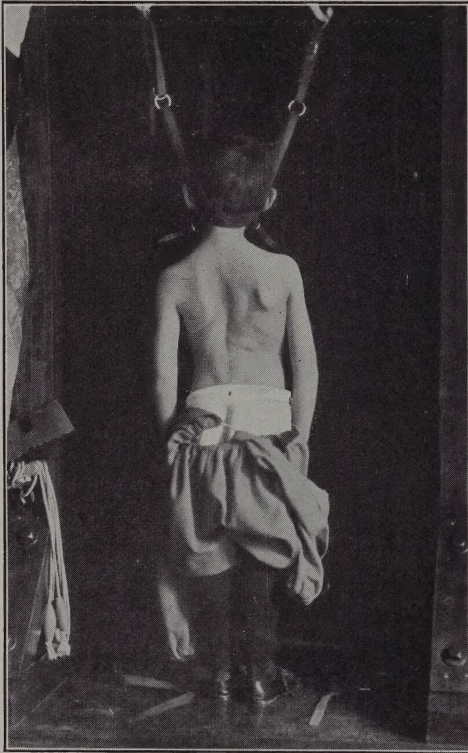


FIG. 7

the start. It is taught by the physician or instructor placing his hand a short distance above the head and asking the patient to touch the palm of his hand without getting on his toes. From this position of stretch-

ing a very good movement is one in which the patient bends forward (Fig. 3) maintaining the stretched position, then still maintaining this position, he comes back to the straight and then relaxes. In connec-

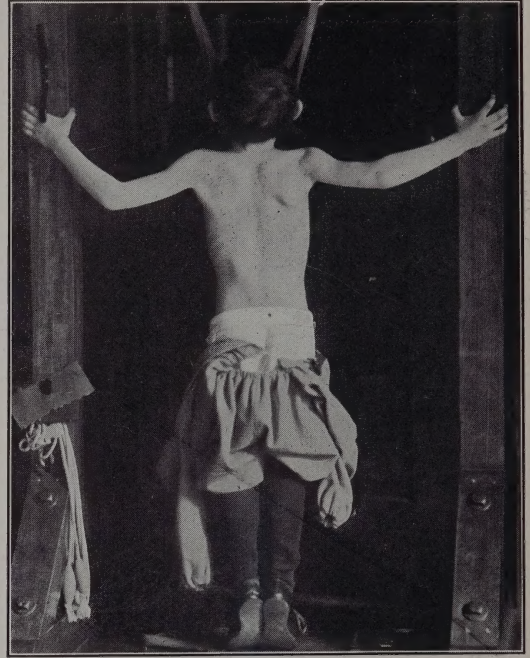


FIG. 8

tion with this exercise he should be taught to practice a posture something of the sort illustrated in Fig. 4. If it is a right dorsal scoliosis, the left hand is placed on the left hip and the right hand on the right chest at the point of the greatest deformity. At the word given the patient thrusts hard against the chest deformity and exerts counter pressure on the left hip. This gives an apparent correction which is quite marked and is a good exercise to practice at home.

To immobilize stiff joints and to stretch tight factors we resort to apparatus. Fig. 5 is an illustration of a simple apparatus copied from Berger and Banzet and consists of two vertical uprights fastened to the wall and two bars running through these uprights which may be placed at any

height. The lower one holds a rounded block. Fig. 6 illustrates the manner in which this is used, the block being placed somewhere near the scapulæ while lower down a webbing belt is applied to hold the patient to the uprights. The patient is placed against the uprights and stands on his tiptoes, grasping the upper bar with his hands, the bar being placed as high as he can take hold of it. This position is one in which the shoulder muscles are brought into use with great effectiveness. Although they are not directly connected with the spinal column, they do have an important connection with the ribs, and therefore we consider this apparatus of great use.

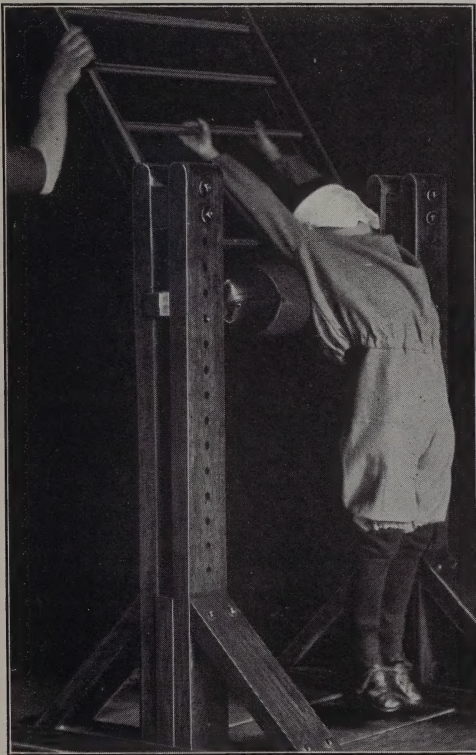


FIG. 9

The next apparatus which has a certain field of application is a simple one used to extend. It is nothing more or less than a scaffold from which is suspended an ordinary Sayre head support and requires no

further comment. Figs. 7 and 8 illustrate the patient in this apparatus before and during the pull. With practice the patient can learn to pull himself up if he is not too heavy, and learns to take breath while he is

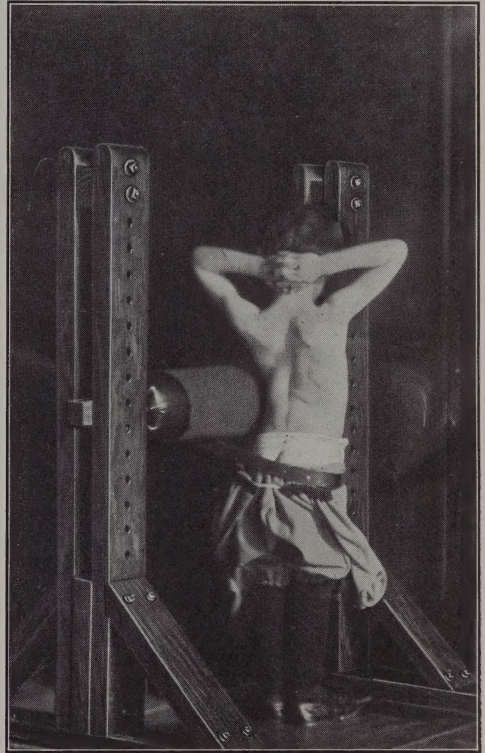


FIG. 10

in suspension, thus being able to stand the pull for a considerable period, some of the patients being able to hold out as long as ten minutes. But the actual use of extension is not for the direct purpose of straightening the spine so much as to mobilize the fixed joints.

The Lorenz roller has an important field of application. The original Lorenz roller consists of a simple horizontal padded boom (roller) resting on two uprights. As used by Lorenz himself, the patient leans back and the instructor takes hold of the shoulders and pulls him backwards, rocking him over the roller. The purpose is simply to

exert direct mechanical pressure on the posterior rib deformity. The original method as thus used, is very difficult and trying both to the physician and patient, and various modifications have been applied to make easier the method. Our own modification is partially founded on Beely's apparatus and simply consists of a removable ladder pivoted on the ends of the roller. The patient takes hold of the rung indicated, and the ladder is swung back at a very easy leverage. (Fig. 9.) In order to diminish the friction between the back and the roller a simple felt jacket has been

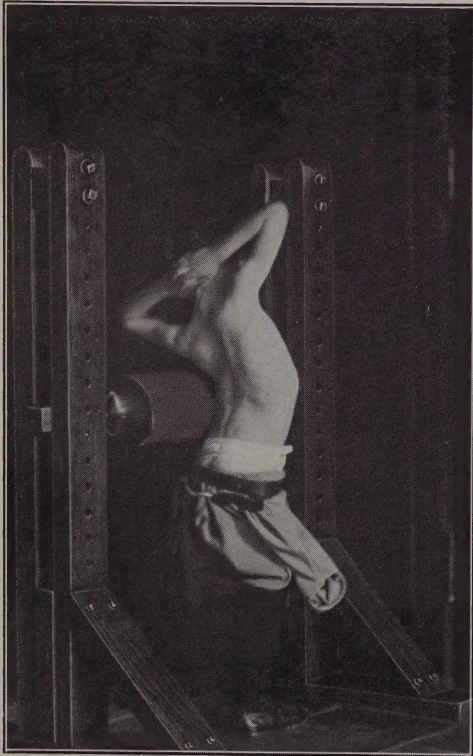


FIG. 11

applied to the roller, which revolves with the patient. We have also modified the Lorenz roller to be used for another set of movements, which have for its aim stretch-

ing of the lateral trunk muscles. If, for example, we wish to stretch the right lateral trunk muscles, the patient stands with his left side against the boom at the proper height and places his hands behind his head,

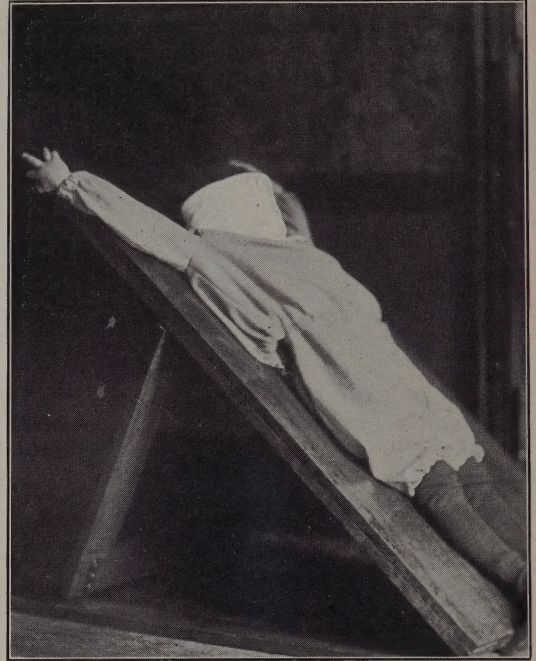


FIG. 12

as in Fig. 10. The instructor holds him tight against the boom by means of a strap and the patient is told to take an active movement, such as in Fig. 11.

Fig. 12 is a simple reclination board on which the patient rests between exercises, being an adaptation from a French apparatus of a similar purpose. (Berger et Banzet.)

Besides these things the instructor may give certain free movement exercises of the leg and arm in order to give the limbs a wider sphere of motion and for the sake of variety. We also make use of a modification of the Redard lever, which we will leave for a special report.

